### **LLNL and LANL Portal Overview**





# Lawrence Livermore National Laboratory Los Alamos National Laboratory

Presented at InterLab 2002, December 4 - 6, 2002

# What we will cover today



- Portal Planning, Implementation, and Deployment
- Portal Infrastructure and development
- Content Management
- Frequently Asked Questions

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Katherine Norskog, LANL, Content Development
Michael Calhoun, LANL, Infrastructure

### **Terms**



### PORTAL

 A portal is a web-based method of integration and interaction with multiple data sources

### PORTAL PAGE (tab)

A portal page displays one or more portlets to users via a provider

### PROVIDER

A provider "provides" a group of portlets to the portal

### PORTLET

A component of a portal used to serve dynamic (or static) data

#### CONTENT AREA

 A component of a portal used by distributed authors to create static content for display on a portal page

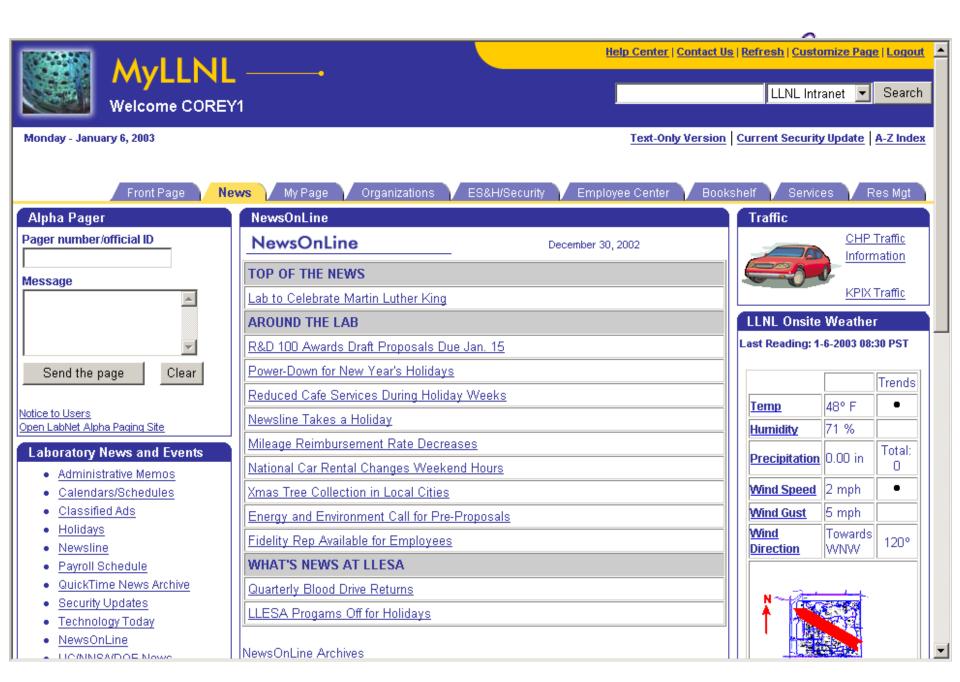
### PERSONALIZATION

Targeted delivery based on user of one



# My LLNL Demo













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ES&H/Security

Employee Center

Bookshelf

Service

Res Mgt

Employee Resources

Training/Education

### **Employee Resources**

- Benefits
- Building Locator
- Cafes
- Calendars/Schedules
- Community
- Commuting
- Credit Unions
- Employee Activities
- <u>Eudora E-mail</u> Information
- Flexible Work Options
- Health and Wellness
- Hotlines
- Human Resources
- Johnson Controls at LLNL
- <u>LITE Time Reporting</u>
   System
- Meeting Maker Information
- New Employees
- Ombuds Program
- Open LabNet

#### Benefits

- · At Your Service--formerly UCbencom
- · LLNL Benefits Office
  - Employee Assistance Program

Organizations

- Medical
- Dental
- o Vision
- Other benefits
- · Payroll Organization
- UC Regents' Portfolios for Retirement Funds
- UC Retirement Estimator--PERS
- UCRP Retirement Program Benefit Estimator

#### **Payroll Information**

- Payroll Organization
- · LITE Time Reporting System
- · Payroll Calendar of Events
- · Payroll Schedule (Biweekly)
- Other Payroll-Related Resources:
  - o California Franchise Tax Board
  - o Internal Revenue Service
  - O Social Security Administration

#### Commuting

- Transportation Systems Management Program (TSMP)
- Altamont Commuter Express
- Bay Area Public Transportation
- Directions to the Lab
- Mapquest
- Wheels Livermore Amador Transit

### **Johnson Controls Employees**

- Johnson Controls at LLNL
- Benefits
- Contact List
- Forms
- News
- Policies
- Training
- Worktech--timekeeping system

### CONTRELS

### **Health and Wellness**

- Disability Assistance
- Emninyaa Accietanna Program



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#### Phone Directories

- Lawrence Livermore
- Department of Energy-National Nuclear Security Administration
- · Other Laboratories

#### Reference Materials

- Acronyms and Abbreviations
- Almanacs
- Archives/History
- Calendars
- <u>Dictionaries and</u>
   Thesaurus
- Encyclopedias
- Other Resources

#### **Forms**

- Carpool Parking Permit Application
- Electronic Forms Library
- Extensity Web-Based Application

#### Policies and Procedures

- Aviation
- Business Services
- Classification
- Classified Document Handling
- Computer Use and Security
- Contract 48
- <u>Diversity and Equal</u>
   Employment Opportunity
- Environment, Safety, and Health (ES&H)
- Export Control
- Financial Management
- Food Services
- Foreign Nationals
- Human Resources
- Industrial Partnerships
   and Commercialization
- Intellectual Property

- Legal Issues
- Packaging and Transportation Safety Program (PATS)
- Procurement
- Project Management
- Property Management
- Quality Assurance Program
- Records Management
- Safequards and Security
- · Software Management
- Substance Abuse
- Technical and Scientific Information
- Training
- Travel
- · Whistleblower Protection
- Work-for-Others (WFO)

#### Online Documents

- Documents On-Line
- Electronic Magazines and Newsletters
- Forms
- Guides and Tutorials
- Institutional Publications
- Lab Overview
- Phone Directories
- Policies, Procedures, and Manuals
- Program Publications
- · Reference Materials

### Libraries

#### Onsite

- LLNL Library Services
  - o Documents On-Line
  - Online Catalog (WebCat)
  - o Electronic journals
- Laboratory Archives
- Leadership & Management Development Library
- Plant Engineering Technical Library

Offsite

### Guides/Tutorials

- Career Management Guide
- Classification Bulletins Guides and Manuals



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RA COI Information

Welcome to the MyLLNL Resource Management community of interest.

To customize the content on the Resource Management tab, log in and use the Customize Page link located in the upper right corner of the MyLLNL portal.

If you have suggestions or comments please send e-mail to the MyLLNL portal team at portalhelp@llnl.gov

#### **LLNL Phonebook**



More WebPh Options

#### RA Communication

- Web Messenger Information
- Web Messenger Login

#### **RA News**

#### CFO News

#### Data Warehouse & IPPS News

 12/10- Delivery of drop point reports and Inter-office courier service are no longer provided by AIS ITS. This reminder is being sent because since Monday, 12/2 we have continued to print a good deal of reports that have a drop point destination on the banner.

If your reports are still being sent to a drop point, you will need to change them to an L-code, email or arrange to have them picked up in T4726 lobby area. This affects all scheduled batch jobs that are printed with a drop point location on the distribution list. If you are unsure if your reports are affected, please check your scheduled batch jobs or call the Data Warehouse Support line at 2-9299.

If you have printed a high speed report that was to be delivered to a building or drop point you can find your report in the bins located in the T4726 lobby area. Reports will be held for a 2 week period before being discarded. You are encouraged to change your drop point to an L code for delivery by Laboratory mail services.

If you have questions or concerns, please contact Data Warehouse Customer Support at extension 2-9299 or send e-mail to dwhelp@llnl.gov.

### **RA Financial Applications**

- Account Management System (AMS)
- Cafe Chemistry
- COSMOS-Engineering
- Cost Budget Report Finance
- Cost Type Expense Changes
- Data Warehouse/IPPS
- Data Warehouse Batch Report Lookup
- Data Warehouse Web Repository
- Enterprise Data Depot EDD
- Field Budget Submissions
- Move It Chemistry
- Service Center Calls

#### RA Notifications/Calendars

- Data Warehouse Load Status
- · Finance Calendars
- Financial Community Calendar prototype
- Payroll Calendar

#### RA Estimators & Tools

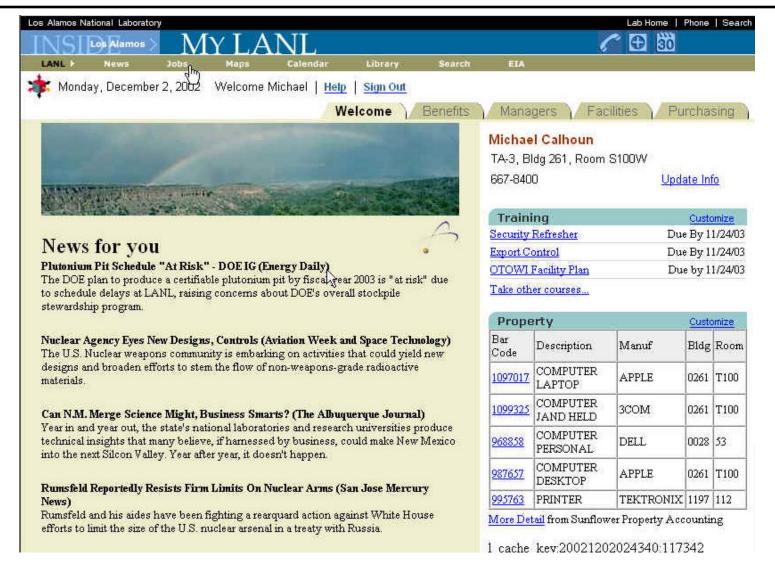
- Lab Pricer NEW!
- Estimator Chemistry



# **My LANL Demo**

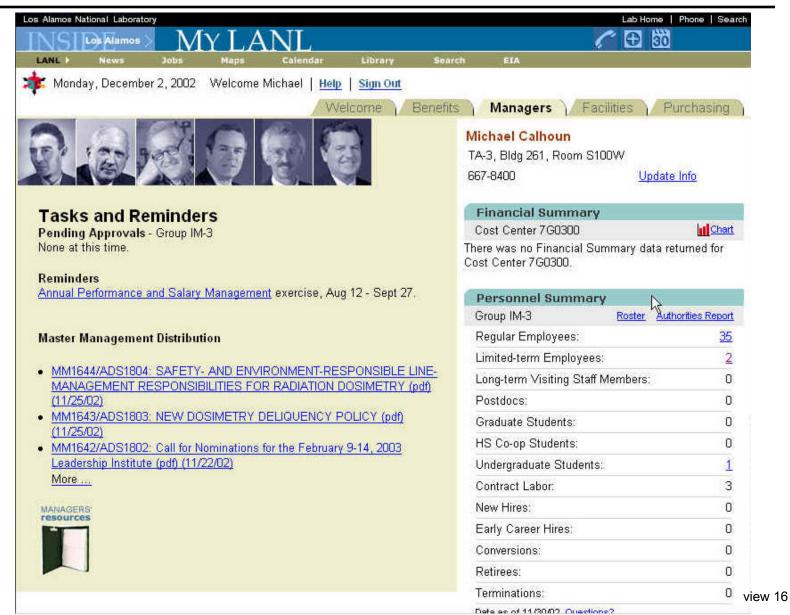
### **Audience of One**





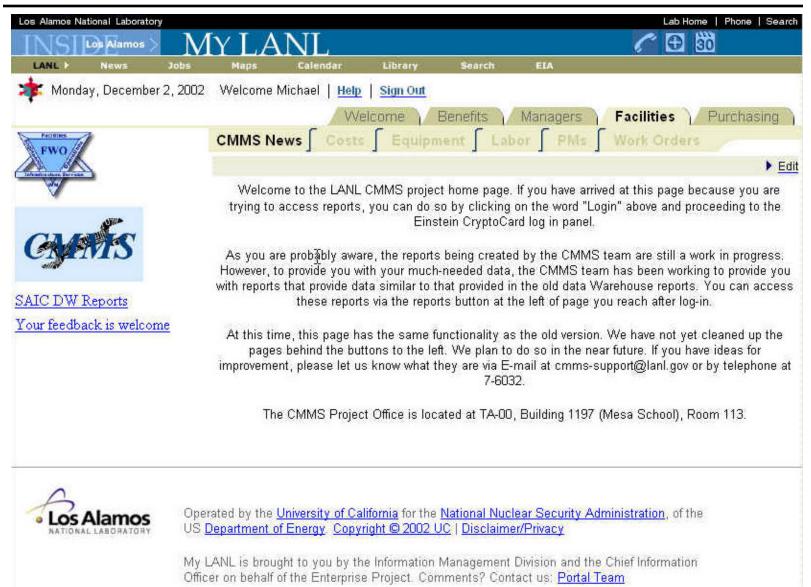
# Managers' dashboard





## Organization provider





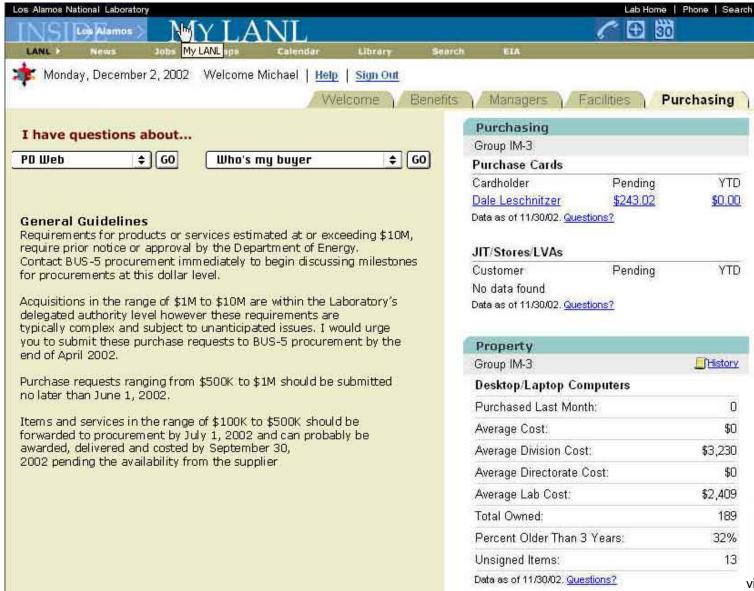
### **Benefits to Nat'l Lab**





# **Purchasing/Property**





# LLNL portal timeline



Oct. 99	Mar. 00	Oct. 00	Mar. 01	Oct. 01	Mar. 02 5/6	Oct. 02
What we did:						
• Product research	<ul><li>Prototype</li><li>Usability study</li><li>Pilot user group</li></ul>	• Mgt. briefs	Phase I • Re-     portal design     build	Mgt. briefs     Hold on deploy- ment	<ul><li>Inst. deploy.</li><li>COI devel.</li><li>Distr. devel.</li></ul>	• R2 analysis
User base:	100 users ———		250 users ———		Available Lab	-wide
Technology:						
Web DB 3.0 k	peta \	Veb DB 3.0.4,	3.0.7 Porta	I 3.0.9.8.2 3	.0.9.8.3 (dev) R2/9	.0.1
Funding: \$0K*	\$250K*	\$0K*	\$650K*	\$0K*	\$296K*	\$927K**

<sup>\*</sup> Incremental \$

<sup>\*\*</sup> Baseline budget established for institutional Web effort (includes infrastructure and portal)

### **LANL Portal Timeline**



June 00	<b>Mar 02</b> (Phase 0)	Oct 02	Dec 02	Mar 03	Aug 03
What we did: Product research Interviews with Mgrs	Visit Livermore Usability Study	Content Development for Managers	Begin Distributed Development	Develop Content for all LANL Users	High Availability (Redundancy)
User base:	<30 Users		~1000 Users		~10,000 Users
Technology:	Authenication Servers	Added Beta Environment	Supported as "Production"	9iAs Release II 9.0.1	
Standard HTML	Authorization Portal 3.0.9.8.2 Dev & Prod Environments				
Funding:	7 FTEs	7 FTEs	11 FTEs	15 FTEs	20 FTEs

# **User-Focused Approach**



### LLNL

- Developed a formal communication plan
- Briefings & demos for business/scientific/IT managers and their customers
- Maintained contact with users from the pilot
- Formal usability study on Phase I prototype
- Early production release release to a limited population
- Brought in a scientific program and functional administrative group to develop reusable COI approach
- Feedback utility on the portal to track and monitor user input and suggestions

# **User-Focused Approach**



### LANL

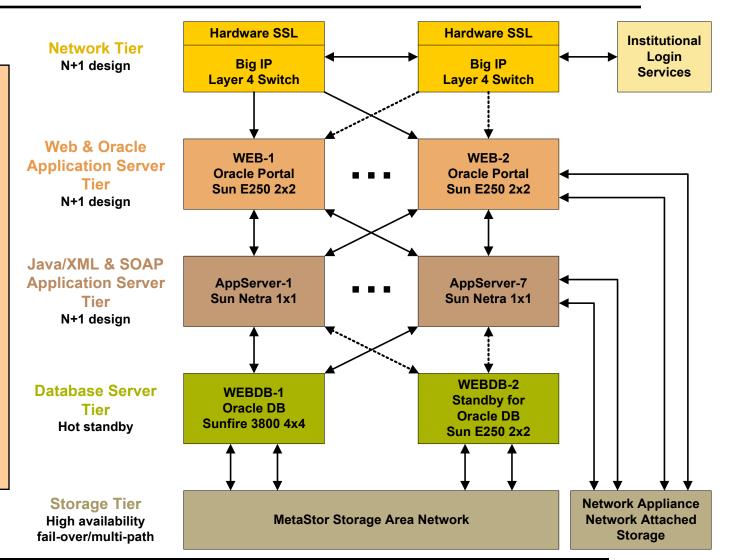
- Initial interviews with ~36 managers about data needs
- Strategic communication plan
- Content design with key data owners
- Briefings and demos for senior managers, Enterprise Project leaders
- Feedback
  - –needs analysis
  - -interviews
  - –usage stats
  - -customer service support
- Expanding pilot with quiet roll-out

### **LLNL Portal Infrastructure**



### **GOALS:**

- Capacity support 7000+ users
- High availability -99.5%+ uptime
- High performance fast response time (~2 to 3 seconds per page)
- Scalability ability to scale dynamically (except for DB tier)
- Serviceability maintenance
   upgrades without
   impacting users

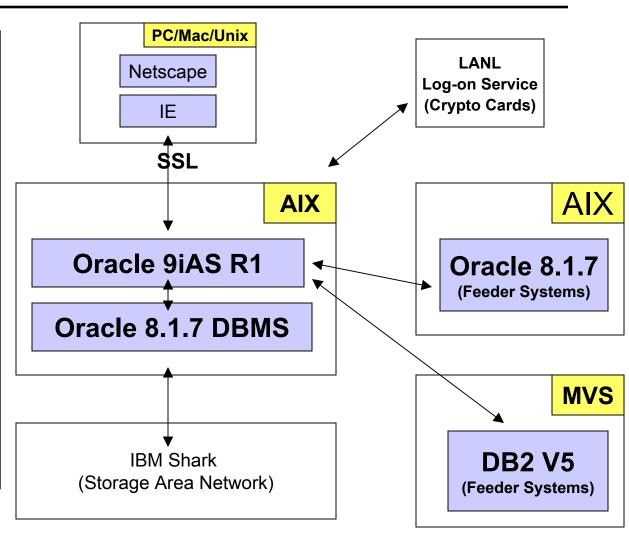


### **LANL Portal Infrastructure**



### **GOALS:**

- Capacity support 10,000+ users
- Integrated sign-on with legacy apps
- Integrated authorization with legacy apps
- Hardware and software integration with ERP Project (IBM / AIX / Oracle)
- High availability
- High performance
- Scalability



# **Content Management**

# **Content Delivery**



### **LLNL Goals:**

- To give users the information they need to do their jobs
  - Migrated intranet (Grapevine) content to portal; users can access intranet content without having to log in
- To allow users to customize content and have access to protected information (e.g., leave balances, training plans)
  - Advantage to logging in is ability to customize portal content and access protected information

# **Content Delivery**

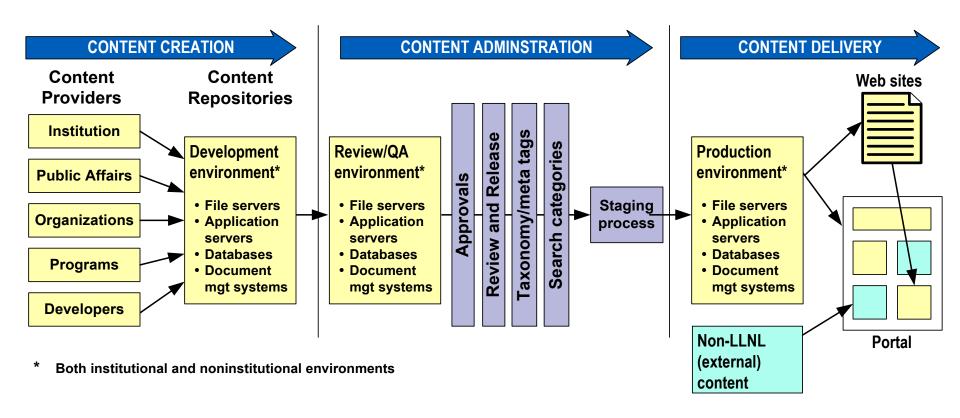


### **LANL Goals:**

- New functionality to LANL intranet—audience of one
- Managers "dashboard"
- Workers info (e.g., leave balances, training plans, paystub, etc.)
  - Targeted delivery— ability to recognize exactly who is there and serve data accordingly, by role and person
- Single sign-on and authorization for "new" ERP systems and "old" one too.

# **LLNL Content Management**



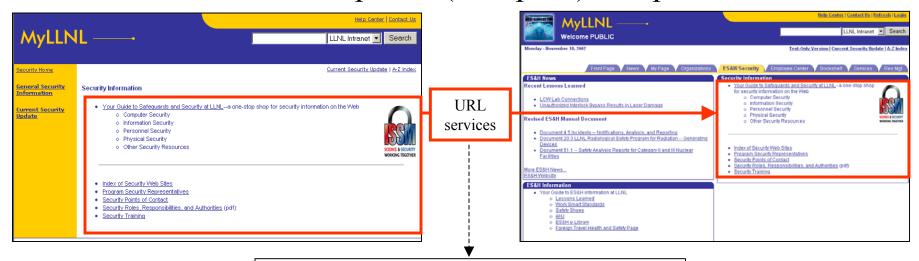


# MyLLNL content /data types

<!-- end SECURITY INFORMATION PORTLET -->



• URL services: most MyLLNL content resides in Web pages on the server and is pulled ("slurped") into portlets



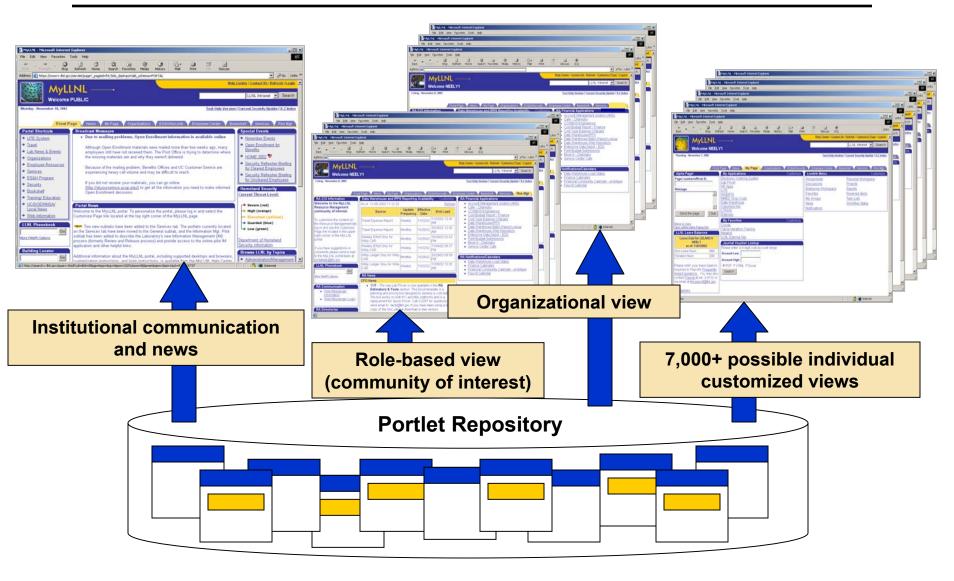
<!-- begin SECURITY INFORMATION PORTLET --> <A HREF="http://www-r.llnl.gov/securityprogram/issm/index.html"><IMG SRC="../images/issm/ISSM\_logo\_sm\_ipg" ALIGN="right" ALT="ISSM 10g0" WIDTH="60" HEIGHT="97" VSPACE="6" HSPACE="10" BORDER="0"></A> <UL CLASS="PortletText2"> <LI><A HREF="http://www-r\_llnl.gov/securityprogram/index.html" CLASS="PortlefText2">Your Guide to Safeguards and Security at LLNL</A> -- a one-stop shop for security information on the Web <UL CLASS="PortletText2"> <LI>Computer Security</LI> <LI>Information Security</LI> <LI>Personnel Security</LI> <LI>Physical Security</LI> <LI>Other Security Resources</LI> </UL> </LI> <HR SIZE="1" NOSHADE WIDTH="90%"> <UL CLASS="PortletText2"> <LI><A HREF=http://www-r.llnl.gov/securityprogram/security index.html CLASS="PortletText2">Index of Security Web <LI><A HREF=http://www-r.linl.gov/securityprogram/reps/index.html CLASS="PortletText2">Program Security <LI><A HREF=http://www-r.llnl.gov/securityprogram/POC.html CLASS="PortletText2">Security Points of Contact</A></LI> <LI><A HREF=http://www-r.llnl.gov/securityprogram/LLNL RRA.pdf CLASS="PortletText2">Security Roles, Responsibilities, and Authorities</A> (pdf)</LI> <LI><A HREF=http://www-r.llnl.gov/securityprogram/training.html CLASS="PortletText2">Security Training</A></LI>

Example of URL services code for Security Information portlet

and LANL Portal Overview 30

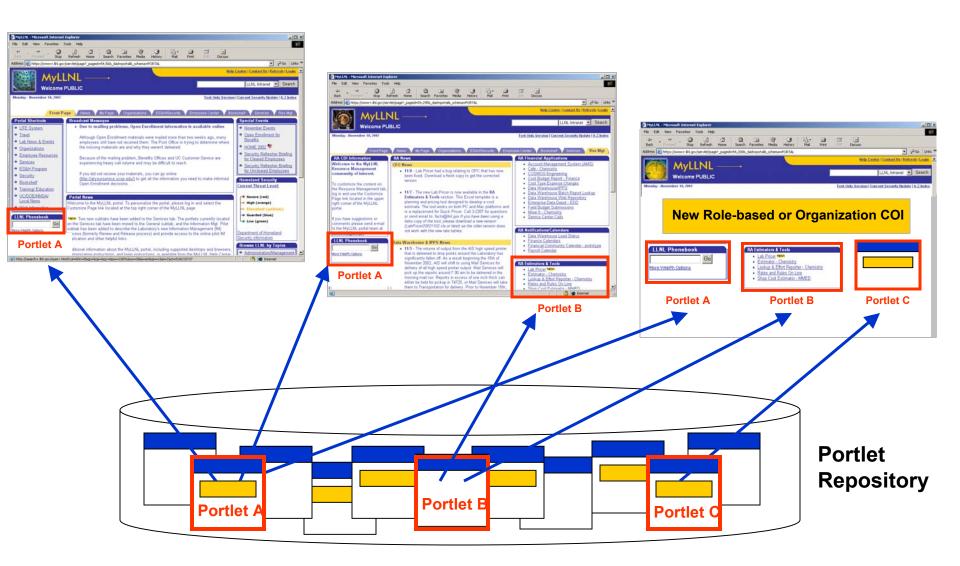
# Content is infinitely variable





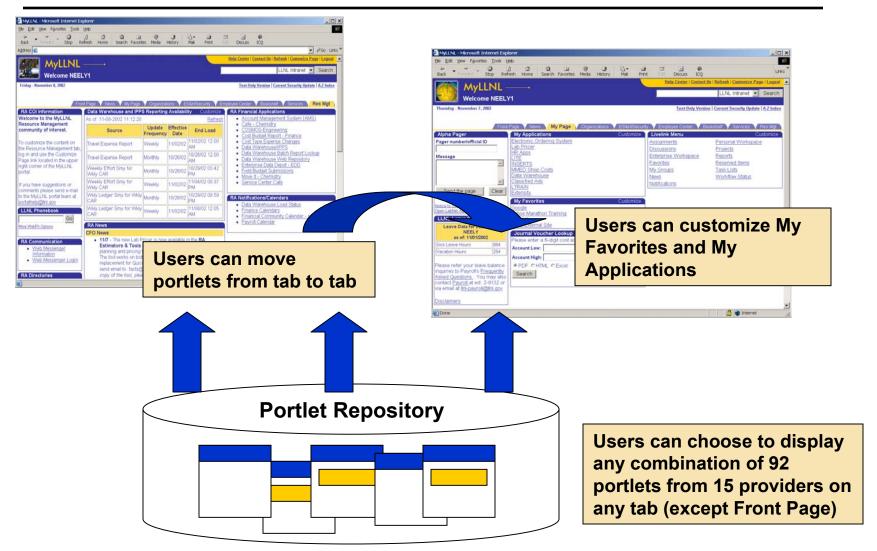
### Portlets are reusable





### **Users can customize**





# Intranet content reengineering





MyLLNL -		LLNL Intranet   Search				
Lab Phonebook Go	Tuesday - November 19, 2002	Current Security Update   A-Z Index				
More WebPh Options  Building Locator	You have been automatically redirected to this text-based version of	Notice to Macintosh-Netscape 4.7x Users  matically redirected to this text-based version of MyLLNL because Macintosh users with Netscape 4.7x have				
Go November Events	been experiencing performance and display issues when accessite fonts). Macintosh-Netscape users are encouraged to switch to Interest of the portal (e.g., the ability	ternet Explorer 5.x to take advantage of the more advanced				
Open Enrollment for Benefits	Users may also upgrade to Netscape 6.x, which is available for download from the <u>Electronic Software Distribution site</u> , although it is not yet the recommended LLNL standard version for Netscape and has not been fully tested on all LLNL applications. Although there are no known incompatibilities on Mac OS 9.x at this time, users are advised to upgrade with caution.					
HOME 2002	Documents and Libraries Online documents, phone directories, policies/procedures,	Employee Center Employee activities, benefits, commuting,				
Security Refresher Briefing for Cleared Employees	Environment, Safety, and Health  ES&H news, ES&H information,	News and Events  Lab news/events, calendars/schedules, UC/NNSA/DOE,				
Security Refresher Briefing for Uncleared Employees	Organizations  Laboratory organizations, organization list, organization	Security  Security, classification,				
<u>LITE System</u>	<u>charts, UC/DOE/NNSA,</u> <u>Services</u>	<u>Training and Education</u>				
	Publications/documents, business, travel,	Online training, careers, training resources,				

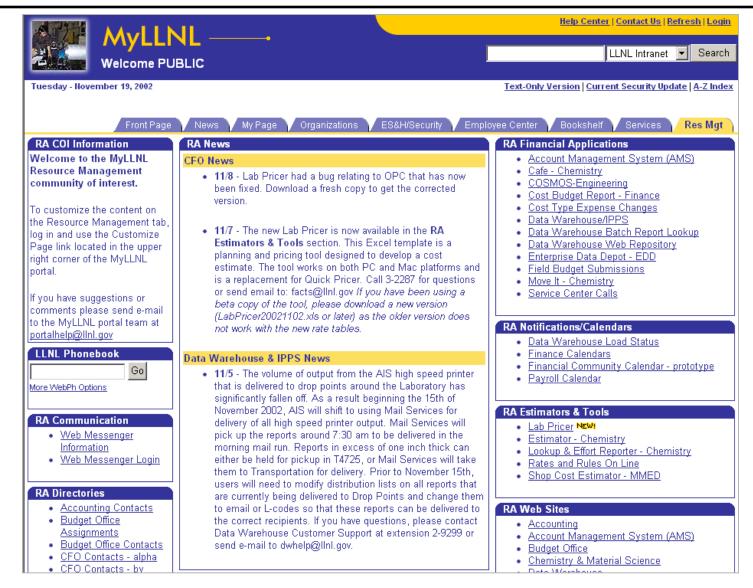
# **Taxonomy implementation**



MyLLNL — SEARCH						
Start new search Search these results Search entire V  Search Organizations:  search Help Advanced	<u>Veb</u>	Search by o	Tip: You can get a list of all external URLs : page.  Example: link:http://mysite/mypage.html-si			
Topic: Home > Organizations Subtopics: Centers Committees and Councils Contractors Departments	Directorates Employee Organizations National Laboratories Offices		Programs and Projects Research Centers and Facilities Sponsors			
77 results found, sorted by relevance		score using date 1	nide summaries	1-10		
NIF Directorate Home Page About   Programs   Partners   Library   Jobs   Contacts   Site Map Search   Phone Book   Comments UCRL-MI-141520-REV-1, LLNL Disclaimers March 1, 2002   http://www.llnl.gov/nif/ - 3.8KB						
Integrated Computing and Communications Integrated Computing and Communications http://www.llnl.gov/icc/-9.4KB				02 Oct 02 <u>Find Similar</u>		
LLNL Biology and Biotechnology Research Program - LLNL home page   Biology at LLNL  Comments   BBRP Jo http://www-bio.llnl.gov/ - 5.9KB		-117984, Privacy & Legal	Notice May 8, 2001	21 Jun 01 Find Similar		

### Resource Workbench





# FY03: Next Steps



### LLNL

- Migrate to Oracle Portal Release 2
- Analysis and delivery of additional communities of interest and organizational portals
- Portlet development methodology, documentation, training, and workbench
- User communication/education
- Moving business applications to 9iAS infrastructure
- Development projects: Eudora/Meeting Maker integration, institutional calendar, browser bookmark import, integrated inbox
- Redesign of front page to align with institutional communication plan

# FY03: Next Steps



### LANL

- Provide additional data to managers —performance indicators, comparative benchmarks
- Provide data for the individual—your training, property, paystub, etc.
- Move business applications to common authentication when possible
- Develop: Eudora/Meeting Maker integration, Virtual workplaces (with directory)
- Formalize the portlet development methodology, developer training, content rule set and content review process



How many people were on the initial portal team, including LLNL/LANL employees and contractors?

### LLNL:

About 30 employees worked on the initial portal; only about half were full time. This includes both infrastructure and portal design and development. We had several consultants in from Oracle for short-term engagements addressing performance tuning.

### LANL:

About 10 employees including managers, one Oracle consultant, two usability designers who did user-based analysis of needs, two portlet developers, some part- time DBAs...7 FTEs.



How many people are currently maintaining the portal, including programmers, administrators, etc.?

### LLNL

- The LLNL Institutional Webmaster maintains the infrastructure, which is our Laboratory intranet infrastructure (two webmasters at about .5 FTE each for portal webmaster support). We also have .5 Oracle DBA dedicated to the infrastructure.
- The LabNet Group maintains the Oracle Login server for authentication and access control; they are responsible for institutional authentication services.
- The current Portal Team consists of:
  - 1 full-time administrator
  - 1 part-time content manager/administrator
  - 2 developer/programmers
  - 3 full-time customer support/test personnel
  - 2 analysts for developing requirements for communities of interest

We expect this mix to change slightly as our portal evolves.



How many people are currently maintaining the portal, including programmers, administrators, etc.? Cont...

### LANL

 We still have the initial team building but we're gearing up to involve organizational providers such as the environment, facilities, and pit manufacturing areas. The model is centralized administration and management, infrastructure, and standards with distributed content development.



# Did you consider building an in-house portal product?

- We investigated several portal products when the marketplace was still very new. There were only a few portal products in the marketplace. Among others, we looked at Plumtree, Data Channel, and TopTier. Plumtree is the only product among these that has remained intact.
- We obtained the Oracle Portal product as part of our Oracle site license, so there was literally no software cost, a large factor in our original decision (same for LANL). Additionally, we were building our web infrastructure to support the Oracle 9iAS product line, and we expected the portal software to be integrated. If it was not workable, we were very clear that we would change products. Oracle was extremely supportive and responsive. We were one of the early adopters which had influence on the product itself. We never really had the resources available to build our own product from the ground up.



What was the cost of building the portal? (I understand if you cannot provide us with this information!)

### LLNL:

Our pilot project (100 users) budget was \$250K. The main portal design and development project budget was \$650K. Our budget for deployment, customer support, and proof of concept for several targeted portal utilities and a community of interest design is \$296K. Infrastructure is separate and is NOT included in these costs.

### LANL:

Costs for our pilot are comparable although a full accounting is difficult since some costs are difficult to separate from our Enterprise Project (EP).



### How are users authenticated?

### LLNL:

• Neither. We have no current or future plans to use NT login or NT domain authentication for our portal. Users authenticate to the portal via the Oracle Login server, which forms the backbone for eventually morphing to support a Laboratory single sign-on mechanism. The LabNet Group is responsible for an LLNL "official ID and personal access code" for each employee, assigned at the time each person becomes an employee. They are also working to include this ID/PAC for DOE/NNSA employees assigned to the Lab.

### LANL:

Crypto Card authentications via two methods (credentials are interchangeable)

- Existing Systems
- Oracle Portal

(WIN2K AD will accept Crypto Card credentials eventually)



What were some of your critical decisions? What was the impact of those decisions?

### LLNL:

- •Focusing first on building and fine-tuning the portal infrastructure portal speed and reliability
- •Using our "unfunded time" to spread the portal word and sell the project to both users and managers change management
- •Focusing on Java, rather than PL/SQL, development scalability, speed, and developer interest

### LANL:

- Managers' dashboard model
- Institutional Owner Question— CIO, Richard Kendall
- Governance Model



What advantages do you see to your content strategy? Disadvantages?

### LLNL:

- Our content strategy was to migrate our existing intranet content (i.e., the Grapevine content) to our portal and then look at dynamic data to pull into the portal.
- Advantages? Users transitioned from old intranet site to new portal with access to all data without logging in.
- Disadvantages? A lot of content for users to sort through, with minimal navigation and no "killer apps" initially to entice users to the portal.

### LANL:

- Our current strategy is to provide decision support data to managers, key data in summary form. This greatly enhances our Web toolset.
- Downside? Because of the costs of development and the need to pull data from legacy systems, we can't provide this much-needed information faster!



### What are your lessons learned?

### LLNL

- Plan extensively; build in contingencies and flexibility
- Maintain consistent, clear two-way communication
- Test and tune infrastructure
- Develop intimate partnership with portal vendor development team

#### LANL

- Maintain consistent, clear two-way communication
- Test and test portlets
- Obtain key management support from the beginning
- Bring an Oracle consultant onsite during initial stages